

REMARKS

The Office Action dated October 10, 2002 has been carefully considered and this Amendment prepared in response. Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the remarks which follow.

After amending the claims as set forth above, claims 1, 3-5, and 7-9 are now pending in this application.

In the Office Action the specification was objected to for containing unclear terms, and claims 1-9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over US Patent No. 5,865,588 to Schertler in view of US Patent No. 6,326,755 to Babbs. These rejections are respectfully traversed.

The Specification Has Been Carefully Proof Read And All Unclear Terms Have Been Corrected In The Foregoing Amendments

The Office Action objected to the specification for being replete with terms which are not clear, concise or exact. In response, the specification has been carefully proof read. Each instance of unclear terms or incorrect grammar have been corrected in the foregoing amendments. Accordingly, Applicants respectfully request withdrawal of the objection to the Specification.

Amended Claims 1 and 5 Recite Structure Not Disclosed or Suggested In the Cited References

Claims 1 and 5 have been amended to incorporate the subject matter of claims 2 and 6 respectively. Specifically, the term "connecting elements" has been amended to be "kinematic coupling connecting elements." "Kinematic coupling" is defined with extensive structural disclosure in the specification (see pages 5 and 6) which describes couplings featuring various types of alignment pins and receptor holes or slots to enable the coupling to be easily assembled and disassembled with precision alignment. By means of kinematic couplings, modules can be precisely connected shortly before or during assembly of the modular systems or when the modules are rearranged during service (see paragraphs 15, 17, of the publication of the present application). In these

amendments, reference characters have been left in the claims, however, such characters have no effect on claim scope. MPEP 608.01(m).

In contrast, the Schertler reference discloses an arrangement of vacuum chambers for manufacturing storage discs that are rigidly connected together. Arbitrary combinations of the different chamber types are disclosed (col. 16, lines 24-33). However, the chambers are rigidly connected to each other with conventional screws and sealing devices to create a vacuum-tight connection (Fig. 2). Such couplings are not easy to disassemble and reassemble. Thus, Schertler does not disclose the kinematic couplings recited in amended claims 1 and 5.

The Babbs reference describes a robotic end effector system. However, it does not disclose any structure that resembles a kinematic coupling connecting element. At the location in Babbs cited by the Examiner (col. 9, lines 66-67, Figs 8-12), Babbs discloses "aligners" which are described at col. 10, ll. 19-35 as devices that locate the center and axial orientation of individual wafers, and "load port assemblies" which are not structurally described thereafter. Neither of these features are structures for aligning and coupling enclosure modules as are the "kinematic coupling connecting elements" recited in amended claims 1 and 5. Further, the present specification describes "load ports" as structures that may be connected to the substrate conveying module recited in amended claims 1 and 5, but are not included in the limitations of those claims. Thus, the fact that Babbs discloses load port assemblies is irrelevant to amended claims 1 and 5 which do not recite such structure. Similarly, the fact that Babbs discloses aligners for determining the centers and axial orientation of wafers is irrelevant to claims 1 and 5 which do not recite such structure.

It is inappropriate to combine the Schertler and Babbs references as suggested in the Office Action because the structures cannot be physically combined as suggested. Specifically, there is no way to combine the rigid inter-module couplings of Schertler with the wafer center aligners or load ports of Babbs to form the "kinematic coupling connecting elements" recited in amended claims 1 and 5.

In sum, since the combination of Schertler and Babbs do not disclose or suggest all of the elements of claims 1 and 5, Applicants respectfully submit that these claims

are allowable over these references. Accordingly, Applicants respectfully request withdrawal of the rejections of these claims under 35 U.S.C. § 103(a).

Since claims 3-4 and 7-9 depend from allowable claims 1 and 5, respectively, Applicants submit that these claims are also allowable over the references, and withdrawal of the rejections of these claims is also respectfully requested.

Approval Of Formal Drawings Is Requested

In the Office Action Summary, the second block under Application Papers was checked and marked to read "The drawing filed on 6/13/02 is" however, neither the "approved" nor the "disapproved" box was checked. The Examiner is respectfully requested to indicate in the next office action that the formal drawings, that were filed on 6/13/02, are approved.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

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The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741.

**MARKED UP VERSIONS OF AMENDED PARAGRAPHS AND CLAIMS SHOWING
CHANGES MADE**

Below are the marked up replacement paragraph(s):

Page 4, second paragraph which is indicated as paragraph [0014] in the published application:

The object is achieved by way of the features [of claim 1 or claim 5] of the embodiments described herein below.

Page 4, third paragraph which is indicated as paragraph [0015] in the published application:

The advantageous result of [the] connecting elements mounted on the substrate conveying module on at least two side walls is that a decision as to the orientation or rotational alignment in which the substrate conveying module is to be installed on the workstation does not need to be made until shortly before assembly of the substrate conveying module and workstation at the installation location. The substrate conveying module can therefore be rotated, on short notice and on-site, into a rotational position possibly different from the one that may originally have been planned, and installed on the workstation. Conventional setup, planned in detail from the outset, can be dispensed with.

Page 5, first full paragraph which is indicated as paragraph [0017] in the published application:

In addition, the substrate conveying module according to the present invention, or a system made up of one or more substrate conveying modules and one or more workstations according to the present invention, has the advantage that its arrangement is also flexibly modifiable during its service life. Trained persons are capable at any time of making a configuration change and readapting the substrate conveying module and workstation to changes in circumstances. If necessary, for example, substrate conveying that was previously being performed laterally into the

workstation can be converted, without substantial effort, into substrate conveying that occurs from the rear side.

Page 5, third paragraph which is indicated as paragraph [0019] in the published application:

The connecting elements in the side walls of the substrate conveying module and the workstation are generally kinematic couplings known to those skilled in the art. The term "kinematic couplings" is understood to mean mechanical apparatuses which make it possible to couple together mechanical assemblies or modules, and in that context, by way of mechanical apparatuses, to align them [by] with respect to one another with as many degrees of freedom as possible or allow them to assume a previously aligned orientation. These mechanical apparatuses can be, for example:

Page 10, last paragraph carrying over onto page 11 which is indicated as paragraph [0044] in the published application:

A further variant of the arrangement between substrate conveying module 1 and workstation 3 is shown in FIG. 6. In this exemplary embodiment, substrate conveying module 1 is connected to rear side 3b of workstation 3. A prerequisite for this is naturally that rear side 3b of workstation 3 be equipped with corresponding connecting elements 4b. In this configuration, left and right sides 3a, c of workstation 3 are unoccupied. As a result, any space requirements can be taken into account, or unoccupied sides 3a, c [are] can be used for other purposes. To ensure a flexible arrangement of the substrate conveying module 1 on different sides 3a, b, c, d of workstation 3, these sides 3a, b, c, d are correspondingly equipped with connecting elements 4b. A specific side 1a, b, c of substrate conveying module 1 can thus be coupled to several sides 3a, b, c, d of workstation 3.

Below are the marked up amended claim(s):

1. (Amended) A substrate conveying module (1) for conveying substrates into a workstation (3), the substrate conveying module (1) being surrounded by side walls (1a, b, c), wherein at least two side walls (1a, b, c) of the substrate conveying module (1) have [mechanical] kinematic coupling connecting elements (4a) that coact with corresponding kinematic coupling connecting elements (4b) of the workstation (3).

5. (Amended) A system made up of at least one substrate conveying module (1) and at least one workstation (3) which has several side walls (3a, b, c, d), substrates being exchangeable between the substrate conveying module (1) and workstation (3), wherein the workstation (3) has, on at least two different side walls (3a, b, c, d), kinematic coupling connecting elements (4b) that coact with the corresponding kinematic coupling connecting elements (4a) in at least one side wall (1a, b, c) of the substrate conveying module (1).